水禽病毒性疾病三價疫苗研發概況

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摘要

水禽病毒性疾病三價疫苗包含鵝源水禽小病毒、鴨源水禽小病毒、鴨肝炎病毒三種減毒疫苗之多價疫苗，用來預防鴨隻感染鵝源、鴨源水禽小病毒感染症以及鴨病毒性肝炎。此三種疾病於雛鴨皆有高發病率與高死亡率，進而導致養鴨產業嚴重經濟損失。用疫苗免疫種鴨產生移行抗體保護雛鴨是本病的防疫策略。市售單價疫苗以鴨胚胎蛋或是雞胚胎蛋作為疫苗增殖原料，受限因素多。而本疫苗以組織培養方式馴化增殖，減少胚胎蛋的使用，多價疫苗可以減少免疫所需要之人力成本以及多次免疫造成的鴨隻緊迫，是未來疫苗開發趨勢。本疫苗已完成實驗室研發試驗，於 2018 年進行試製 40 萬劑量並於進行擴大田間試驗，後續將提供養鴨產業新疫苗的選擇。

Overview of research and development of trivalent vaccines for waterfowl viral diseases

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Abstract

The waterfowl trivalent viral vaccine is a multivalent vaccine containing live attenuated goose waterfowl parvovirus, Muscovy duck parvovirus, and duck hepatitis A virus. This multivalent vaccine could help prevent goose waterfowl parvovirus, Muscovy duck parvovirus, and duck hepatitis A virus infections. Ducklings infected with these diseases can exhibit high morbidity and high mortality rates, which will then result in stunted growth and potentially serious economic losses. Immunization of breeders with vaccines, to produce maternally derived antibodies for duckling protection, is a viable epidemic prevention strategy for these diseases. Commercially available monovalent vaccines typically use duck or chicken embryo eggs as vaccine proliferation materials, which can be influenced by a variety of factors. These vaccine strains are attenuated and proliferated in tissue culture, which bypasses the use of embryonic eggs. Furthermore, multivalent vaccines reduce the amount of labor required during administration while at the same time reducing animal stress induced by multiple vaccinations. AHRI has completed laboratory research and development experiments for this trivalent viral vaccine for waterfowl . In 2018 alone, AHRI produced 400,000 doses of this vaccine which were also used in field trials. This vaccine will provide for a new and more efficient vaccine selection for the duck industry.